

AMENDMENTS TO THE CLAIMS:

Please amend the claims as follows, substituting any amended claim(s) for the corresponding pending claim(s):

1. (Canceled).

2. (Currently Amended) A vending machine for verifying the delivery of a ordered product, the system comprising:

an ordering system for receiving a customer order of a product;

a product delivery system for sending the product located in a first product storage position through a delivery path to a second product receiving position;

a monitoring system located along the delivery path for detecting when the product passes through the delivery path from the first position to the second position, the monitoring system optically scanning the delivery path for the product transition using a plurality of discrete light beams each emitted by one of a plurality of light emitters and detected by at least one of a corresponding plurality of light detectors; and

a reporting circuitry electronically coupled to the monitoring system wherein the reporting circuitry reports the result of the customer order.

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1 ~~2~~ (Currently Amended) The vending system of claim ~~1~~ wherein ~~the monitoring system further~~
2 comprises:
3 ~~one or more light emitting source; and~~
4 ~~one or more light detection source wherein the light detection source detects a change in a~~
5 ~~light from the light-emitting source~~ each light detector detects interruption of a light beam emitted
6 by a corresponding light emitter.

1 ~~3~~ (Currently Amended) The vending system in claim ~~2~~ wherein the monitoring system further
2 comprises:
3 ~~an optical circuitry for optically monitoring the delivery path between the first product~~
4 ~~storage position and the second product receiving position; and~~
5 a logic circuit electronically coupled to the optical circuitry for determining whether the
6 product passed through the delivery path, the determining occurring by receiving a first logic result
7 when light is detected, and a second logic result when light is not detected.

1 ~~4~~ (Original) The vending system in claim ~~3~~ wherein the light is an infrared light.

5/ 1. (Currently Amended) ~~The A~~ vending system ~~in claim 3~~ for verifying the delivery of an

2 ordered product, the system further comprising:

3 an ordering system for receiving a customer order of a product;

4 a product delivery system for sending the product located in a first product storage position
5 through a delivery path to a second product receiving position;

6 a monitoring system located along the delivery path for detecting when the product passes
7 through the delivery path from the first position to the second position, the monitoring system
8 optically scanning the delivery path for the product transition and including:

9 at least one light emitting source;

10 at least one light detection source, wherein the at least one light detection source
11 detects a change in a light from the light-emitting source; and

12 an optical detection aperture, wherein the aperture is used to reduce the range of
13 incident angles of light that may be detected by the at least one or more light detection
14 source; and

15 a reporting circuitry electronically coupled to the monitoring system, wherein the reporting
16 circuitry reports the result of the customer order.

1 ~~6~~ (Currently Amended) The vending system in claim ~~2~~ wherein ~~the one or more light emitting~~
2 ~~source~~ each of the plurality of light emitters is aligned approximately across from the ~~one or more~~
3 ~~light detection source~~ the corresponding light detector, wherein the delivery path lies in between the
4 ~~one or more light emitting source~~ the plurality of light emitters and the ~~one or more light detection~~
5 ~~source~~ the corresponding light detectors.

1 ~~7~~ (Currently Amended) The vending system in claim ~~2~~ wherein the ~~one or more light emitting~~
2 ~~source and the one or more light detection source~~ is plurality of discrete light beams are aligned such
3 that the spacing between ~~detectible~~ the beams accounts for ~~the~~ a smallest product that transitions
4 through the delivery path.

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(Currently Amended) The A vending system ~~in claim 2 wherein at least two light emitting sources and at least two detecting sources are used, the system further~~ for verifying the delivery of an ordered product, the system comprising:

an ordering system for receiving a customer order of a product;

a product delivery system for sending the product located in a first product storage position through a delivery path to a second product receiving position;

a monitoring system located along the delivery path for detecting when the product passes through the delivery path from the first position to the second position, the monitoring system optically scanning the delivery path for the product transition and including:

at least two light emitting sources;

at least two light detecting sources; and

a controller that sends a signal to a first one of the at least two light emitting sources activating and then deactivating the first one of at least two light emitting sources[[:]]

~~a set first time period~~ wherein the signal is cycled by the controller to a next emitting source of at least two light emitting sources after expiration of a first set time period, [[:]]

and

~~a second time period~~ wherein an emitter cycle in which the signal is cycled by the controller to all of the at least two light emitting source is completed within a second time

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19 period, wherein the second time period is determined by a shortest delivery path travel time
20 of a product; and
21 a reporting circuitry electronically coupled to the monitoring system, wherein the reporting
22 circuitry reports the result of the customer order.

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10. (Currently Amended) The vending system in claim ²/₇ wherein the power of the ~~one or more~~
light emitting source plurality of light beams is adjusted to compensate for ambient light effects.

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11. (Currently Amended) The vending system in claim ²/₇ where in the power of the ~~one or more~~
light emitting source plurality of light beams is adjusted to compensate for reflected light effects.

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~~12.~~ (Previously Presented) The vending system in claim ~~4~~³ wherein the logic circuitry further
comprises:
an input from the product delivery system;
an input from the optical circuitry; and
an output from a comparison circuit, whereby the output comprises of a resulting comparison
between the input from the product delivery system and the input from the optical circuitry, wherein
the resulting comparison determines if a delivery attempt by the product delivery system resulted in
an actual delivery of the product to the receiving position.

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~~13.~~ (Previously Presented) The vending system in claim ~~2~~¹, wherein the reporting circuitry further
comprises a data storage device for storing information concerning the customer order.

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~~14.~~ (Previously Presented) The vending system in claim ~~2~~¹, wherein the reporting circuitry further
comprises a logic circuit for determining whether to offer another vend attempt to the customer
based upon a comparison between the result and a predetermined rule.

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~~15.~~ (Original) The vending system in claim ~~13~~¹² wherein the reporting circuitry further comprises
a display device wherein an operator can retrieve the information.

1 16. (Withdrawn) A vending method for determining whether a product is delivered, the method
2 comprising the steps of:

3 sending a delivery signal to a product delivery system based on a customer ordering event;

4 monitoring a delivery path that the ordered product travels to reach a product receiving
5 location with a monitoring system located along the delivery path for detecting when the product
6 passes through the delivery path, the monitoring system optically scanning the delivery path for the
7 product transition using a plurality of discrete light beams each emitted by one of a plurality of light
8 emitters and detected by at least one of a corresponding plurality of light detectors; and

9 determining if the product was delivered to the receiving location.

1 17. (Withdrawn) The method of claim 16 wherein the monitoring further comprises the steps of:

2 transmitting a signal light beam from one or more signal emitting devices each of the
3 plurality of light emitters;

4 monitoring to receive the signal light beam at one or more signal detection devices each of
5 the corresponding light detectors; and

6 determining whether an interruption of the signal any of the light beams occurred.

1 18. (Withdrawn) The method of claim 17 wherein the step of transmitting the signal light beam
2 further comprises the steps of:

3 activating the ~~one or more signal emitting device~~ each of the light emitters in a sequential
4 series; and

5 activating the corresponding ~~one or more signal detection device corresponding to light~~
6 detectors concurrently with the activated corresponding light emitter.

1 19. (Withdrawn) The method of claim 16 wherein the step of monitoring comprises using an
2 infrared signal.

1 20. (Withdrawn) The method of claim 16 further comprising the steps of:

2 attempting a redelivery of the product one or more predetermined number of attempts,
3 wherein a first attempt to delivery the product failed; and

4 providing the customer one or more alternative choices if the redelivery attempt of the
5 product failed after the one or more predetermined number of attempts.

1 21. (Withdrawn) The method of claim 20 wherein the step of providing the customer with an.
2 alternative choice further comprises the steps of:

3 providing the customer alternatively with a first choice to request a second product; and
4 providing the customer alternatively with a second choice to request a refund associated with
5 the customer ordering event.

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1 22. (Withdrawn) The method of claim 16 wherein the step of sending a delivery signal comprises
2 the step of activating the monitoring system to monitor the delivery path.

1 23. (Withdrawn) The method of claim 22 further comprising the step of deactivating the
2 monitoring at the conclusion of the customer ordering event.

1 24. (Withdrawn) A vending machine method to deliver a product, the method comprising the
2 steps of:

3 determining that a product ordered by a customer was not delivered;
4 counting the number of failed attempts to deliver the product ordered by the customer; and
5 taking an action based on the number of attempts that the product was ordered by the
6 customer but not delivered.

1 25. (Withdrawn) The method of claim 24, wherein the step of taking an action further comprises
2 the steps of selectively preventing other orders from occurring for the product until a predetermined
3 event when the number of attempts reaches a predetermined number and selectively disabling a
4 monitoring system until a predetermined event when the number of attempts reaches a predetermined
5 number.

1 26. (Withdrawn) The method of claim 24, wherein the step of taking an action further comprises
2 the step of offering a second product alternative.

1 27. (Withdrawn) The method of claim 25 further comprising the step of re-enabling the vending
2 machine to accept other orders after a predetermined time has lapsed.

1 28. (Withdrawn) The method of claim 25 wherein the step of determining further comprises:
2 sending a delivery signal to a product delivery system based on a customer-ordering event;
3 monitoring a delivery path that the ordered product travels to reach a product receiving
4 location; and
5 determining if the product was delivered to the receiving location.

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1 29. (Withdrawn) The method of claim 28 wherein the step of monitoring further comprises the
2 step of optically monitoring using an infrared signal.

1 Claims 30-33. (Canceled).

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34. (Currently Amended) ~~The A~~ vending system of ~~Claim 8~~ for verifying the delivery of an
ordered product, the system comprising:
an ordering system for receiving a customer order of a product;
a product delivery system for sending the product located in a first product storage position
through a delivery path to a second product receiving position;
a monitoring system located along the delivery path for detecting when the product passes
through the delivery path from the first position to the second position, the monitoring system
optically scanning the delivery path for the product transition and including:
at least one light emitting source;
at least one light detection source, wherein the at least one light detection source
detects a change in a light from the light-emitting source, and
wherein the at least one light emitting source and the at least one light detection
source are aligned such that the spacing between detectible beams accounts for the smallest
product that transitions through the delivery path,
wherein the detectible beams comprise light emitted from ~~one of the~~ at least one or
~~more~~ light emitting source and detected by an aligned detector and two detectors adjacent to
the aligned detector; and
a reporting circuitry electronically coupled to the monitoring system, wherein the reporting
circuitry reports the result of the customer order.

35. (Withdrawn) The method of claim 18 wherein the ~~one or more signal detection device~~
~~comprises: a detection device~~ the plurality of light detectors are each aligned with a corresponding
signal emitting device; light emitter, and wherein light beams emitted by each of the light emitters
are detected by the aligned light detector and by at least one of two detection devices light detectors
adjacent to the ~~detection device~~ aligned with the ~~corresponding signal emitting device~~ light detector.

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(Currently Amended) ~~The A~~ vending system ~~of Claim 14~~ for verifying the delivery of an ordered product, the system comprising:

an ordering system for receiving a customer order of a product;

a product delivery system for sending the product located in a first product storage position through a delivery path to a second product receiving position;

a monitoring system located along the delivery path for detecting when the product passes through the delivery path from the first position to the second position, the monitoring system optically scanning the delivery path for the product transition and including:

at least two light emitting sources; and

at least two light detecting sources; and

a reporting circuitry electronically coupled to the monitoring system, wherein the reporting circuitry reports the result of the customer order,

wherein the reporting circuitry further comprises a logic circuit for determining whether to offer another vend attempt to the customer based upon a comparison between the result and a predetermined rule, and

wherein delivery of all products is prevented if a product delivery is not detected.

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1 ¹⁷~~37~~. (Withdrawn) The vending system of Claim ¹³~~14~~ wherein the delivery of a set of products is
2 prevented if a product delivery is not detected.

1 ^N~~38~~. (Withdrawn) The method of Claim 20, the method further comprising the steps of:
2 storing data associated with the customer ordering event and redelivery attempts.

1 ^N~~39~~. (Withdrawn) The method of Claim 24, the method further comprising the steps of:
2 storing data associated with the steps of determining, counting, and taking.

1 ^N~~40~~. (Withdrawn) The method of Claim 24 wherein the action based on the number of attempts
2 comprises preventing delivery of the product ordered by the customer.

1 ^N~~41~~. (Withdrawn) The method of Claim 24 wherein the action based on the number of attempts
2 comprises preventing delivery of a set of products.

1 ^N~~42~~. (Withdrawn) The method of Claim 24 wherein the action based on the number of attempts
2 comprises offering a refund of the purchase price of the product ordered by the customer.

1 43. (Withdrawn) The method of Claim 24 wherein the action based on the number of attempts
2 comprises selectively preventing delivery of one or more products until an action is taken by a
3 service person and selectively disabling a monitoring system until an action is taken by a service
4 person.

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~~44.~~

(Previously Presented) An apparatus for monitoring an operation of a vending machine, the apparatus comprising:

an ordering system for accepting customer orders;

a delivery path through which a product ordered by a customer from the ordering system travels;

a set of signal emitting devices located along the delivery path and sequentially emitting a signal;

a set of signal detecting devices located across the delivery path from the set of signal emitting devices, at least one signal detecting device of the set of signal detecting devices being aligned with a corresponding signal emitting device of the set of signal emitting devices, the at least one signal detecting device having at least one adjacent signal detecting device, the at least one signal detecting device and the at least one adjacent signal detecting device operable to receive the signal from the corresponding signal emitting device; and

a logic circuit connected to set of the signal detecting devices, the logic circuit determining whether a product is delivered along the delivery path from an output of the set of signal detecting devices.

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